WHAT IS CLAIMED IS:

1. An apparatus for packaging an optical element in a cavity, comprising:

an interconnect bar arranged to carry an electrical signal from an external source to the optical element;

a substrate arranged to support the optical element inserted into the cavity;

interconnect pins arranged to provide driving signals from the external source to the optical element; and

a housing arranged to hold the interconnect bar, the substrate, and the interconnect pins with respect to the optical element, wherein the housing forms the cavity around the optical element and assists in aligning the external source to the interconnect pins.

2. The apparatus of Claim 1, wherein the interconnect bar is arranged with holes that are made into an interconnect portion that rests under a ledge associated with the optical element, such that the effective CTE of the interconnect bar is minimized.

3. The apparatus of Claim 1, wherein the interconnect bar is made from a material that minimizes the CTE difference between the interconnect bar and optical element materials.

4. The apparatus of Claim 1, wherein the interconnect bar is a conductor that is comprised of one of a single monolith and multiple segments.

5. The apparatus of Claim 1, wherein the interconnect bar is a conductor plated with nickel-gold.

6. The apparatus of Claim 1, wherein the substrate is made from a material that minimizes the CTE difference between the substrate and the optical element.

7. The apparatus of Claim 1, wherein the interconnect pins are conductors plated with materials that enable electrical contact between the interconnect pins and the interconnect device.

8. The apparatus of Claim 1, further comprising a shroud arranged to support an interconnection between the external source and the interconnect pins.

9. The apparatus of Claim 8, wherein the shroud is arranged to cover the interconnect pins such that the interconnect pins are protected when the apparatus is handled and an interconnect device associated with an outside source is supported such that the interconnection is stable.

10. The apparatus of Claim 8, wherein the shroud is arranged to cover the interconnect pins such that the interconnect pins are protected when the apparatus is handled.

11. The apparatus of Claim 8, wherein the shroud is arranged with openings directly under the interconnect pins such that test probes can access the interconnect pins directly.

12. The apparatus of Claim 1, wherein the housing is arranged with openings directly under the interconnect pins such that test probes can access the interconnect pins directly.

13. The apparatus of Claim 1, wherein the interconnect pins are arranged in a manner consistent with one of a group including a low insertion force, zero insertion force, header, surface mount, and through hole mount connections that the interconnect device interfaces with to make electrical contact with the interconnect pins.

14. The apparatus of Claim 1, wherein the housing further includes mount loops and holes such that a variety of mounting options are provided.

15. The apparatus of Claim 1, wherein the housing includes features to be used for mounting the apparatus in an optical assembly.

16. The apparatus of Claim 1, wherein the housing, substrate, and interconnect bar are molded as a single module forming a cavity package, whereby lamination processes are avoided.

17. The apparatus of Claim 1, wherein the optical element is arranged to operate as one of a microdisplay cell, an optical switch, a MEMS device, and a liquid crystal on silicon (LCoS) display.

18. An apparatus arranged to display an image in response to an external source that is independent of a type that is associated with the external source, comprising:

a microdisplay, wherein the microdisplay is one of a microdisplay cell and a liquid crystal on silicon (LCoS) display;

an interconnect bar that is arranged to carry an electrical signal from the external source to a glass portion associated with the microdisplay;

a substrate that is affixed to the microdisplay once the microdisplay is inserted into the cavity, wherein the substrate is made from a material that minimizes the CTE difference between it and the microdisplay;

interconnect pins that arranged to provide driving signals from the external source to a silicon portion associated with the microdisplay;

a shroud that is arranged to structurally support an interconnection between the external source and the interconnect pins; and

a housing that is arranged to hold the interconnect bar, the substrate, and the interconnect pins with respect to the microdisplay, wherein the housing forms a cavity around the microdisplay and assists in aligning the external source to the interconnect pins.

19. The apparatus of Claim 18, wherein the housing, substrate, and interconnect bar are molded as a single module forming a cavity package, whereby lamination processes are avoided.

20. The apparatus of Claim 18, wherein the shroud is arranged to cover the interconnect pins such that the interconnect pins are protected when the apparatus is handled and an interconnect device associated with the external source is supported such that the interconnection is stable.

21. An apparatus arranged to display an image in response to an external source that is independent of a type that is associated with the external source, comprising:

a optical element arranged as one of a light sensing or a light emitting device;

an interconnect bar that is arranged to carry an electrical signal from the external source to the light-based module;

a substrate that is arranged to support the optical element;

interconnect pins that arranged to provide driving signals from the external source to the light-based module;

a shroud that is arranged to support an interconnection between the external source and the interconnect pins; and

a housing that is arranged to hold the interconnect bar, the substrate, and the interconnect pins with respect to the optical element, wherein the housing forms a cavity around the optical element and assists in aligning the external source to the interconnect pins.

22. The apparatus of Claim 21, wherein the housing, substrate, and interconnect bar are molded as a single module forming a cavity package, whereby lamination processes are avoided.

23. The apparatus of Claim 21, wherein the optical element is arranged to operate as one of a microdisplay cell, an optical switch, a MEMS device, and a liquid crystal on silicon (LCoS) display.

24. A method of constructing a light-based module that can be utilized by an outside source to one of sense and emit a light-based image, comprising:

producing an interconnect bar that is arranged to carry an electrical signal from the outside source to the light-based module;

producing a substrate that is arranged to support the light-based module;

producing interconnect pins that arranged to provide driving signals from the outside source to the light-based module;

producing a housing that is arranged to hold the interconnect bar, the substrate, and the interconnect pins with respect to a optical element;

molding the housing, substrate, and interconnect bar as a single module forming a cavity package, whereby lamination processes are avoided; and

inserting the optical element into the cavity package, such that the interconnect pins and the optical element are aligned to establish an interconnection between the light-based module and the outside source.

25. The method of Claim 24, further comprising encapsulating the open volume within the cavity package with RTV silicone.

26. The method of Claim 24, further comprising attaching an aperture frame to an inactive portion of the optical element.

27. The method of Claim 24, inserting the optical element further comprising inserting on of a microdisplay cell, an optical switch, a MEMS device, and a liquid crystal on silicon (LCoS) display.

28. An apparatus for packaging a optical element in a cavity such that the optical element in combination with the apparatus and an aperture frame form a light-based module for use by an external source, comprising:

a means for producing an interconnect bar, wherein the interconnect bar is arranged to carry an electrical signal from the external source to the light-based module;

a means for producing a substrate, wherein the substrate is arranged to support the optical element;

a means for producing interconnect pins, wherein the interconnect pins are arranged to provide driving signals from the external source to the light-based module;

a means for producing a housing, wherein the housing is arranged to hold the interconnect bar, the substrate, and the interconnect pins with respect to a optical element;

a means for molding the housing, substrate, and interconnect bar as a single module, wherein the single module forms a cavity package, whereby lamination processes are avoided; and

a means for inserting the optical element into the cavity package, wherein the cavity package aligns the interconnect pins and the optical element to establish an interconnection between the light-based module and the external source.

29. The apparatus of Claim 28, wherein the means for inserting the optical element into the cavity package further comprises means for inserting one of a microdisplay cell, an optical switch, a MEMS device, and a liquid crystal on silicon (LCoS) display into the cavity package.

30. The apparatus of Claim 28, further comprising means for encapsulating the open volume within the cavity package, wherein the open volume is encapsulated with RTV silicone.

31. The apparatus of Claim 28, further comprising means for attaching an aperture frame, wherein the aperture frame is attached to an inactive portion of the optical element.